

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>0000054473</b>		FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/003955</b>	International filing date (day/month/year) <b>14.04.2004</b>	Priority date (day/month/year) <b>17.04.2003</b>	
International Patent Classification (IPC) or national classification and IPC			
Applicant <b>XSYS PRINT SOLUTIONS DEUTSCHLAND GMBH</b>			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand		Date of completion of this report	
Name and mailing address of the IPEA/EP		Authorized officer	
Facsimile No.		Telephone No.	

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/003955

Box No. I	Basis of the report
1.	<p>With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:</p> <p><input type="checkbox"/> international search (Rule 12.3 and 23.1(b))</p> <p><input type="checkbox"/> publication of the international application (Rule 12.4)</p> <p><input type="checkbox"/> international preliminary examination (Rule 55.2 and/or 55.3)</p> <p>2. With regard to the elements of the international application, this report is based on <i>(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)</i>:</p> <p><input type="checkbox"/> the international application as originally filed/furnished</p> <p><input checked="" type="checkbox"/> the description:</p> <p>pages <u>1-25</u> _____ as originally filed/furnished</p> <p>pages* _____ received by this Authority on _____</p> <p>pages* _____ received by this Authority on _____</p> <p><input checked="" type="checkbox"/> the claims:</p> <p>nos. _____ as originally filed/furnished</p> <p>nos.* _____ as amended (together with any statement) under Article 19</p> <p>nos.* <u>1-18</u> _____ received by this Authority on <u>19.04.2005 with letter of 19.04.2005</u></p> <p>nos.* _____ received by this Authority on _____</p> <p><input checked="" type="checkbox"/> the drawings:</p> <p>sheets <u>1/2-2/2</u> _____ as originally filed/furnished</p> <p>sheets* _____ received by this Authority on _____</p> <p>sheets* _____ received by this Authority on _____</p> <p><input type="checkbox"/> a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.</p> <p>3. <input type="checkbox"/> The amendments have resulted in the cancellation of:</p> <p><input type="checkbox"/> the description, pages _____</p> <p><input type="checkbox"/> the claims, nos. _____</p> <p><input type="checkbox"/> the drawings, sheets/figs _____</p> <p><input type="checkbox"/> the sequence listing (specify): _____</p> <p><input type="checkbox"/> any table(s) related to sequence listing (specify): _____</p> <p>4. <input type="checkbox"/> This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).</p> <p><input type="checkbox"/> the description, pages _____</p> <p><input type="checkbox"/> the claims, nos. _____</p> <p><input type="checkbox"/> the drawings, sheets/figs _____</p> <p><input type="checkbox"/> the sequence listing (specify): _____</p> <p><input type="checkbox"/> any table(s) related to sequence listing (specify): _____</p>

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/003955

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-10	YES
	Claims	11-18	NO
Inventive step (IS)	Claims		YES
	Claims	1-18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

The present report makes reference to the following documents:

D1: DE-A-2722896 (Du Pont)

D2: JP-A-2001290384 (Ricoh), abstract published by the JPO, and figures in the Japanese *Offenlegungsschrift*

D3: EP-A-230889 (Du Pont)

D4: US-A-5916403 (S. Cushner et al.)

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 11-18 is not novel within the meaning of PCT Article 33(2).

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-10 does not involve an inventive step within the meaning of PCT Article 33(3).

Document D1 is considered the prior art closest to the subject matter of claim 1.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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PCT/EP2004/003955

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The method described in claim 1 concerns the production of cylindrical seamless endless moulds for flexo printing. Although the prior art document D1 (see also the other documents mentioned in the description) discloses a variety of methods which anticipate some of the method steps, the aspects described in step (b) and (e) are not suggested by any of the documents concerning the production of flexo print moulds. Unexposed or partly exposed photopolymerisable materials for endless flexoprint moulds, which are cut to size prior to application to the cylinder according to step (b), have not been described so far, and therefore novelty is established. In this regard it should be mentioned that the other "characterizing" method steps (a, c, d, f, g, h,) must be considered general knowledge, even if they are not all explicitly mentioned in a single document.

In addition to the prior art document D1, which describes an abutting vertical seam, a number of alternatives (overlapping, addition of filler or glue, see document D3, page 2, lines 29-32 and document D4) are known to a person skilled in the art of flexo printing, even though these might leave a clearly "visible" seam on high-resolution printed products.

For the assessment with regard to inventive step the problem to be solved has to be defined. If one takes into consideration that the calendering of "conventional" seams (documents D1 and D4) is a time-consuming method and the increase in the resolution of the flexo print method makes ever greater demands on the round shape of the print forme, the objective problem to be solved can

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/003955

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be understood to be that of making it possible to produce a neat, seamless joint between the ends of a cylindrical flexo print mould to be connected using a reasonable amount of outlay and avoiding a visible distortion of the final printed product in the seam region.

A person skilled in the art faced with this problem would not restrict himself exclusively to the technical teaching of flexo printing, which traditionally was associated with relative low resolutions, but instead turn also to other, high-precision cylinder coatings in general, especially in the light of the improving resolution of the flexo print method. Consequently, document D2, which concerns the coating of a cylinder used in electrophotography and having a preshaped and precut polymer layer, must be considered part of the general prior art. This document discloses various alternatives as to how a bead or a dent resulting in a seam can be reduced or eliminated. Figures 1 and 2 clearly show that bevelled, overlapping ends clearly reduce the visible seam and hence only minimal correction is required. The bead shown in figure 1(B) corresponds to a prior art also known in the field of flexo printing but further known to necessitate intensive secondary treatment (for example calendering). To the person skilled in the art it would be quite clear that a seam produced according to figure 2(B) can be smoothed relatively easily and hence that this is an obvious solution for improved, seamless polymer coatings. Document D2 further describes a secondary treatment for the removal of any residual irregularities. Although the coating described in document D2 is not intended for

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International application No.

PCT/EP2004/003955

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flexo printing, the general problem to be solved is the same and the technical field at least similar.

Consequently, the subject matter of independent claim cannot be considered to involve an inventive step.

The dependent claims do not contain a subject matter which could serve as a basis for a new independent claim. All the method aspects specified therein correspond to routine methods and are disclosed in the search report citations and the documents cited in the application.

**Novelty**

The end products obtained, that is to say, the flexo printing elements of independent claims 12 and 13, as well as their use according to claims 14-17, are not novel since it must be assumed that careful calendering (step (g)) almost fully eliminates the seam both in the method according to documents D1 or D4 and in the present method, and hence it is not clear whether the element was produced using the method of the claimed invention or that according to the prior art.